

ipd4100mdimgsvdTES-10

Defense Information Infrastructure (DII)

Common Operating Environment (COE)

**Software Version Description (SVD) for the
METOC Imagery Database Segment (MDIMG)
of the
Tactical Environmental Support System (Next Century)
[TESS(NC)]
Meteorological and Oceanographic (METOC) Database
Preliminary Release**

Document Version 4.1

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1 SCOPE

1.1 Identification

This Software Version Description (SVD) describes the Imagery Database Segment (MDIMG), Version 4.1, of the Tactical Environmental Support System Next Century [TESS(NC)] Meteorological and Oceanographic (METOC) Database. The MDIMG segment provides a database for the storage and retrieval of Imagery Products. This software is designed to run under the Defense Information Infrastructure (DII) Common Operating Environment (COE), release 3.1, on a Hewlett-Packard computer running HP-UX 10.20 or a personal computer running the Microsoft Windows NT 4.0 operating system with Service Pack 3.

1.2 System Overview

The APIs described in this document form a portion of the METOC Database component of the TESS(NC) Program (Navy Integrated Tactical Environmental Subsystem (NITES) Version I). On 29 October 1996, the Oceanographer of the Navy issued a TESS Program Policy statement in letter 3140 Serial 961/6U570953, modifying the Program by calling for five seamless software versions which are DII COE compliant, preferably to level 5.

The five versions are:

- NITES Version I The local data fusion center and principal METOC analysis and forecast system (TESS(NC))
- NITES Version II The subsystem on the Joint Maritime Command Information System (JMCIS) or Global Command and Control System (GCCS) (NITES/Joint METOC Segment (JMS))
- NITES Version III The unclassified aviation forecast, briefing and display subsystem tailored to Naval METOC shore activities (currently satisfied by the Meteorological Integrated Data Display System (MIDDS))
- NITES Version IV The Portable subsystem composed of independent PCs/workstations and modules for forecaster, satellite, communications, and Integrated Command, Control, Communications, Computer, and Intelligence Surveillance Reconnaissance (IC4ISR) functions (currently the Interim Mobile Oceanographic Support System (IMOSS))

- NITES Version V Foreign Military Sales (currently satisfied by the Allied Environmental Support System (AESS))

NITES I acquires and assimilates various METOC data for use by US Navy and Marine Corps weather forecasters and tactical planners. NITES I provides these users METOC data, products, and applications necessary to support the warfighter in tactical operations and decision making. NITES I provides METOC data and products to NITES I and NITES II applications, as well as non-TESS(NC) systems requiring METOC data, in a heterogeneous networked computing environment.

The TESS(NC) Concept of Operations and system architecture require that the METOC Database be distributed both in terms of application access to METOC data and products and in terms of physical location of the data repositories. The organizational structure of the database is influenced by these requirements and the components of this distributed database are described below.

In accordance with DII COE database concepts, the METOC Database is composed of six DII COE compliant *shared database* segments. Associated with each shared database segment is an API segment. The segments are arranged by data type as follows:

<u>Data Type</u>	<u>Data Segment</u>	<u>API Segment</u>
Grid Fields	MDGRID	MAGRID
Latitude-Longitude-Time (LLT) Observations	MDLLT	MALLT
Textual Observations and Bulletins	MDTXT	MATXT
Remotely Sensed Data	MDREM	MAREM
Imagery	MDIMG	MAIMG
Climatology Data	MDCLIM	MACLIM

A typical client-server installation is depicted in Figure 1-1 on the next page. This shows the shared database segments residing on a DII COE SHADE database server, with a NITES I or II client machine hosting the API segments. Communication between API segments and shared database segments is accomplished over the network using ANSI-standard Structured Query Language (SQL).

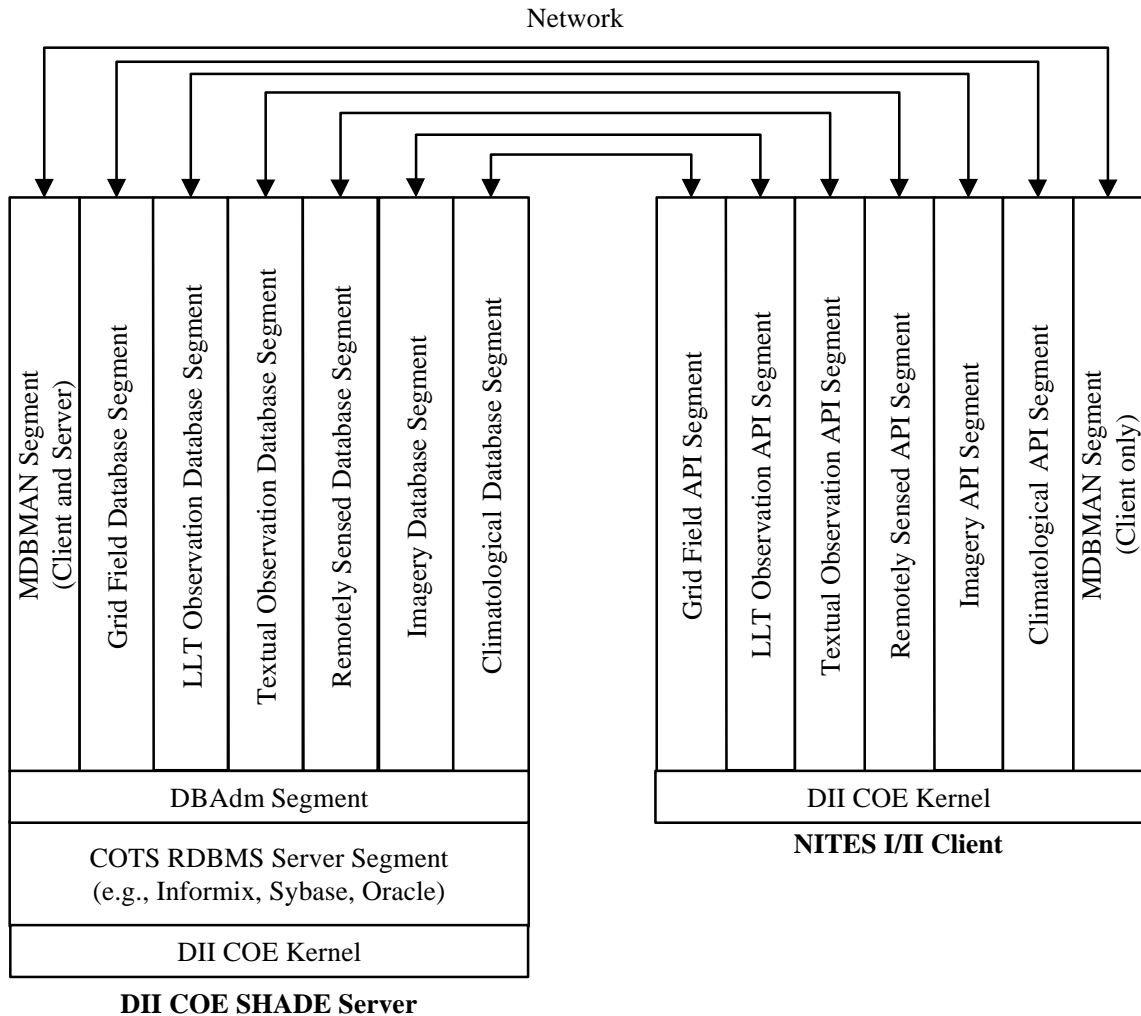


Figure 1-1. TESS(NC) METOC Database Conceptual Organization

The database in the MDIMG segment deals with imagery products. Imagery products can be associated with a specific geographic point/area, as well as time. A number of different image formats are supported; they are NITF, MIF, GIF, TIFF, BMP, JPEG, XWD, XBM, PBM, MPEG, and Other.

1.3 Product Information

1.3.1 Product Qualification

Test and Evaluation (T&E) of the software were performed at IPD's Middletown, RI facility prior to delivery of the software.

1.3.2 Product Restrictions

IPD's intellectual property rights to deliverables defined in this document are covered by the copyright license under the clause in DFARS 252.227-7013 (Nov. 1995).

1.3.3 Product Dependencies

The MDIMG segment is hosted on the following hardware:

- Tactical Advanced Computer, TAC-3 (HP 750/755)/TAC-4 (HP J210)

The operating system requirements are:

- TAC-3/TAC-4: HP-UX 10.20

The kernel requirements are:

- Kernel 3.0.1.0 with patches through P4

The following software must be properly installed prior to loading the MDIMG segment:

- Appropriate operating system (as described above),
- Appropriate DII COE Kernel (as described above),
- DII COE Informix Connect Segment (INFXCN), version 1.0.1.0

2 REFERENCED DOCUMENTS

2.1 Government Documents

Unnumbered
30 September 1997 *Database Design Description for the Tactical Environmental Support System/Next Century [TESS(NC)] Meteorological and Oceanographic (METOC) Database*, Space and Naval Warfare Systems Command, Environmental Systems Program Office (SPAWAR PMW-185), Washington, DC

Unnumbered
8 July 1998 *Installation Procedures (IP) for the Imagery Database Segment (MDIMG) of the Tactical Environmental Support System Next Century [TESS(NC)] Meteorological and Oceanographic (METOC) Database*

2.2 Non-Government Documents

None.

3 VERSION DESCRIPTION

3.1 Inventory of materials released

All physical media and associated documentation for the MDIMG segment are listed below.

- MDIMG Segment v4.1 (HP-UX) Installation Tape (4 mm DAT cartridge for TAC-3/TAC-4 hardware)
- MDIMG Segment v4.1 series Installation Procedures (IP), dated 8 July 1998
- MDIMG Segment v4.1 Software Version Description (SVD), dated 8 July 1998.

3.2 Inventory of Software Contents

A listing of all executables and environment files delivered is contained in Appendix A of this document.

3.3 Changes Installed

A listing of changes installed is contained in Appendix B of this document.

3.4 Waivers

There are no waivers associated with this software.

3.5 Adaptation Data

There are no unique-to-site data contained in the MDIMG 4.1 release.

3.6 Installation Instructions

The MDIMG Segment v4.1 series Installation Procedures (IP) referenced in Section 2 of this document provide comprehensive installation instructions for the MDIMG segment. The fully installed segment occupies approximately 120 K of disk space. The software requires a minimum of 128 MB of RAM, with 192 MB recommended.

3.7 Possible Problems and Known Errors

Known problems and errors with MDIMG software are listed in Appendix C of this document.

4 NOTES

4.1 Glossary of Acronyms

AESS	Allied Environmental Support System
API	Application Program Interface
APIRM	API Reference Manual
COE	Common Operating Environment
DBDD	Database Design Description
DID	Data Item Description
DII	Defense Information Infrastructure
GCCS	Global Command and Control System
IC4ISR	Integrated Command, Control, Communications, Computer, and Intelligence Surveillance Reconnaissance
IMOSS	Interim Mobil Oceanographic Support System
JMCIS	Joint Maritime Command Information System
JMS	Joint METOC Segment
MAIMG	Imagery API Segment of the TESS(NC) METOC Database
MDIMG	Imagery Database Segment of the TESS(NC) METOC Database
METOC	Meteorological and Oceanographic
MIDDS	Meteorological Integrated Data Display System
NC	Next Century
PS	Performance Specification
SRS	Software Requirements Specification
TESS	Tactical Environmental Support System

Appendix A - List of Executables and Environment Files

A.1 File Structure for HP-UX Delivery

```

/h/MDIMG:
total 12
drwxr-xr-x  2 sysadmin  COE    1024 Jul   6 14:24 data
drwxr-xr-x  2 sysadmin  COE    1024 Jul   6 14:24 bin
drwxr-xr-x  3 sysadmin  COE    1024 Jul   6 14:25 install
drwxrwxr-x  2 sysadmin  COE    1024 Jul   6 14:25 Integ
drwxr-xr-x  2 sysadmin  COE    1024 Jul   6 14:25 Scripts
drwxr-xr-x  2 576       COE    1024 Jul   6 17:47 SegDescrip

/h/MDIMG/data:
total 20
-r--r--r--  1 sysadmin  COE    2907 Jul   3 14:38 MDIMG_Channel.txt
-r--r--r--  1 sysadmin  COE    1028 Jul   3 14:38 MDIMG_Satellite.txt
-r--r--r--  1 sysadmin  COE      75 Jul   3 14:38 MDIMG_Format.txt
-r--r--r--  1 sysadmin  COE    233 Jul   3 14:38 MDIMG_Sensor.txt
-r--r--r--  1 sysadmin  COE    401 Jul   3 14:38 MDIMG_Type.txt
-r--r--r--  1 sysadmin  COE    1299 Jul   3 14:38 MDIMG_SubType.txt

/h/MDIMG/bin:
total 6
-r-xr-xr-x  1 sysadmin  COE     722 Jul   3 14:38 MDIMGCreateBlob
-r-xr-xr-x  1 sysadmin  COE     306 Jul   3 14:38 MDIMGDropBlob
-r-xr-xr-x  1 sysadmin  COE     927 Jul   3 14:38 MDIMGGetDBSize

/h/MDIMG/install:
total 8
-r-xr-xr-x  1 sysadmin  COE     547 Jul   3 14:38 deinstall_mdimg
-r-xr-xr-x  1 sysadmin  COE    1519 Jul   3 14:38 install_mdimg
drwxr-xr-x  2 sysadmin  COE    1024 Jul   6 14:25 sql

/h/MDIMG/Integ:
total 2
-rw-rw-r--  1 sysadmin  COE     729 Jul   3 14:41 VSOutput

/h/MDIMG/Scripts
total 0

/h/MDIMG/SegDescrip:
total 22
-rw-r--r--  1 576       COE      83 Jul   3 14:38 ReleaseNotes
-rw-r--r--  1 576       COE      27 Jul   3 14:38 VERSION
-rw-r--r--  1 576       COE    301 Jul   3 14:38 SegName
-rwxr-xr-x  1 576       COE    765 Jul   3 14:38 DEINSTALL
-rwxr-xr-x  1 576       COE   1963 Jul   3 14:38 PostInstall
-rw-rw-r--  1 576       COE   1332 Jul   3 14:41 FileAttribs
-rw-r--r--  1 576       COE    282 Jul   3 14:41 SegInfo
-rw-rw-rw-  1 root      COE    128 Jul   3 14:41 Validated
-rw-rw-rw-  1 root      other   140 Jul   6 14:26 Installed

/h/MDIMG/install/sql:
total 56
-r--r--r--  1 sysadmin  COE      85 Jul   3 14:39 MDIMG_Channel.cmd

```

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-r-xr-xr-x	1	sysadmin	COE	1809	Jul	3	14:38	MDIMG_Channel_scripts
-r--r--r--	1	sysadmin	COE	91	Jul	3	14:39	MDIMG_DatasetDir.cmd
-r-xr-xr-x	1	sysadmin	COE	2453	Jul	3	14:38	MDIMG_DatasetDir_scripts
-r--r--r--	1	sysadmin	COE	83	Jul	3	14:39	MDIMG_Format.cmd
-r-xr-xr-x	1	sysadmin	COE	1629	Jul	3	14:39	MDIMG_Format_scripts
-r--r--r--	1	sysadmin	COE	89	Jul	3	14:39	MDIMG_Satellite.cmd
-r-xr-xr-x	1	sysadmin	COE	1905	Jul	3	14:39	MDIMG_Satellite_scripts
-r--r--r--	1	sysadmin	COE	83	Jul	3	14:39	MDIMG_Sensor.cmd
-r-xr-xr-x	1	sysadmin	COE	1675	Jul	3	14:39	MDIMG_Sensor_scripts
-r--r--r--	1	sysadmin	COE	86	Jul	3	14:39	MDIMG_SubTypes.cmd
-r-xr-xr-x	1	sysadmin	COE	1777	Jul	3	14:39	MDIMG_SubTypes_scripts
-r--r--r--	1	sysadmin	COE	80	Jul	3	14:39	MDIMG_Types.cmd
-r-xr-xr-x	1	sysadmin	COE	1615	Jul	3	14:39	MDIMG_Types_scripts
-r-xr-xr-x	1	sysadmin	COE	2744	Jul	3	14:39	mdimg_cds_scripts
-rw-r--r--	1	sysadmin	COE	19	Jul	6	14:25	mdimg_create_blob_inf
-rw-r--r--	1	sysadmin	COE	18	Jul	3	14:39	mdimg_create_file_inf
-rw-r--r--	1	sysadmin	COE	10	Jul	3	14:39	mdimg_drop_file_inf

Appendix B - Changes/Updates Since Preliminary Release

This release made the following changes:

Pri	PTR #	Summary
1	109	Product Type MAIMG_OTHER does not appear to be properly represented in the MDIMG SubTypes table.
3	143	Change ordering of product type defines so that other satellites can be added without having to go through code changes.
3	145	Add product Type for DMSP composite images.

Appendix C - Known Problems and Errors

Pri	PTR #	Summary
2	146	Extended blob spaces not removed on deinstall.

A detailed PTR is contained on the following page.

